

PRESQUILE NWR
NARRATIVE REPORT - 1967

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PRESQUILE NATIONAL WILDLIFE REFUGE
NARRATIVE REPORT
FOR CALENDAR YEAR 1967

PERSONNEL

REFUGE MANAGER	JOHN C. FIELDS		
BIOLOGICAL TECHNICIAN	RAYMOND P. MCFARLAND		
MAINTENANCEMAN	LUTHER B. VICK, JR.	E.O.D.	MARCH 6, 1967
LABORER	CHARLES M. HERBERICH	E.O.D.	JANUARY 10, 1967
		TERMINATED	JUNE 29, 1967

I. GENERAL

A. Weather Conditions

The data in the following table were provided by the Old Dominion Water Corporation in Hopewell, Virginia. The recordings were made at the city water plant about three miles down the river from the refuge. There is no official weather station on the refuge.

	<u>Precipitation</u>	<u>(In inches)</u>		<u>Temperature</u>	
	<u>1967</u>	<u>Normal</u>	<u>Snow</u>	<u>Max.</u>	<u>Min.</u>
January	1.89	3.07	5.50	76	5
February	2.97	2.76	6.00	72	11
March	2.45	3.16		81	19
April	1.43	3.34		90	36
May	3.80	3.97		90	40
June	1.56	4.23		94	41
July	4.92	3.23		95	53
August	5.58	5.10		94	58
September	3.23	3.73		86	43
October	1.42	2.88		89	32
November	2.38	2.80		76	20
December	6.43	3.50	6.05	72	16
Totals	<u>38.06</u>	<u>41.77</u>	<u>17.55</u>		

The weather for the year started out terrible. We had some snow or cold rain once or twice every week for the first few weeks of the year. Then in mid February we had an ice storm that did a lot of damage to trees and utility wires. However, the refuge did not suffer a great deal even though the power was off for 44 hours. Then we had a minor flood that filled up the ferry slip with mud and broke the phone cable under the river. A record low temperature of 3° on January 20th and a record high of 75° on January 23rd.

March was a month of variety. On March 11th it was 74° . On March 12th it was 44° . On March 14th it was 81° . On the 16th winds blew 81 mph and on the 17th it snowed; and on the 18th it was down to 18° . During the first part of the month we had some exceptionally warm weather that caused a lot of the waterfowl to leave.

Prior to May we had above average precipitation that greatly improved ground water conditions in the general area. In early May it started to get dry again, and the temperatures were below normal. It was late in June, after we thought everything was going to dry up, before we got any appreciable precipitation. Then another long dry spell in July and August that hurt our corn production. Everybody else in the general area got near too much rain and some crops were drowned.

The fall season was about normal or a little below normal in temperatures. The first frost was on October 20th. There was some record cold days in November but temperatures never went below 21° . Temperatures were in the 70's on December 22nd and snow fell on December 23rd.

B. Habitat Conditions

1. Water

All of the waters of the refuge are tidal waters of the James River. There are about three to four feet between high and low tides. The tides are lunar and wind has about the same effect on them here as it does on the coast. It takes about eight hours for the tides to get from the ocean. An abnormally high tide causes flooding in refuge marshes and swamps thus providing the necessary water for the vegetation. Salinity thus far has been negligible in this area but there has been some concern about it during the periods of long drought we have had during the spring and summer of the last few years. The river is so polluted and muddy there is not a chance of any submerged aquatics growing. In fact raw sewage can be seen in abundance whenever we receive several inches of rain. Some sewage treatment plants up the river overflow. There is also a large amount of industrial waste dumped into the river in Hopewell and Richmond.

As in previous years there has been several occasions during this year that large numbers of dead fish were seen on the river. Most of these fish appear to be in the herring family, and probably died from the pollution when they came up the river from cleaner water to spawn.

Even though salinity of the water in the area has been negligible there is a possibility that it might increase beyond the point of endurance of the vegetation if the proposed channel widening and deepening takes place; so the following chart is kept for the record. The readings were recorded by the Old Dominion Water Company in Hopewell, about three miles down the river from the refuge.

The plants in the area use large quantities of water from the river. They cannot use any water that has over 50 parts per million salinity. The Appomattox River empties into the James at Hopewell, between the point of salinity readings and the refuge. The Appomattox is salt free.

The highest monthly salinity readings in parts NACL per million parts of water.

<u>Month</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
January	6	8	36	12
February	3	8	39	10
March	9	10	12	14
April	14	14	13	14
May	12	16	12	16
June	13	20	14	18
July	18	24	26	20
August	18	28	42	24
September	18	32	58	14
October	13	42	12	22
November	12	40	8	20
December	12	42	9	12

2. Food and Cover

This has been a good year for natural food production. The refuge swamps and marshes receive ample water from the river and consistently produce good crops of wild rice, millet, smartweed and a variety of good food plants in lesser abundance. There has been some concern about a bidens in the marshes that is becoming very abundant and is possibly becoming a pest. It grows more than six feet high and there is a possibility that it could be crowding out more desirable species. The waterfowl and water have now knocked most of it down in the principal feeding areas but there is still the possibility of this plant crowding out the more desirable species; so it should be watched closely in the next few years and if it does become a pest a control program will have to be initiated.

There has been good usage of the east marsh by the waterfowl this winter and if they do as they usually do they will start using the north marsh extensively after January 1st. They are using the north marsh some now but not as much as they will after the end of the year. They used it good during January and February.

The refuge cultivated crops produced a good supply of supplemental food this summer. The corn was not quite as good as the extra good crop of one year ago but it was relatively good. The wheat and ryegrass browse got a better start this year than it did one year ago and it was in ideal feeding condition when the waterfowl arrived and started using it. The ryegrass was overseeded with the buckwheat this year for the first time in several years, and it has been a good supplement to the wheat. The buckwheat produced good but the deer got most of it before the waterfowl arrived.

II. WILDLIFE

A. Migratory Birds - Geese

The Canada goose population at the beginning of this year were at a record high level of 10,750. In two weeks the waterfowl hunting season ended and the refuge goose population decreased down to 1,500 by the end of January. They just spread out to adjacent areas mostly on Curles Neck marsh and more or less stayed there because nobody chased them out. They completely denuded the refuge wheat browse during the hunting season and as they became hungry for corn, during real bad weather, they would come back to the refuge. In early March we had over 6,000 but they started leaving the area shortly after that, when the weather turned unseasonably warm and most of them were gone back north by the end of March. There were 225 blue geese present during last year. This was near twice the normal number for this refuge.

The main goose migration into the area started about a week earlier this fall than it usually does and by the second full week in October there were 3,000 using the refuge. The first goose this fall was 70 sighted on the refuge on September 23rd. This was about normal. After the hunting season opened the geese remained almost exclusively on the refuge and the hunters on adjacent lands complained. The hunters said that they had never seen the geese spend so little time off the refuge. Hunters from as far away as fifteen miles down the river at Brandon Plantation complained about the lack of geese in their hunting areas. After the end of the year the hunting improved a little.

The high goose population this year has been slightly less than last year; and they have spent a great deal more time on the browse crops than they usually do. The geese usually just stay on the croplands a little while in the mornings and afternoons, but this year they have been spending the entire day on the better than average wheat browse. They do spend some time on the marshes and open river waters, but not as much as usual. The snow and blue geese have been below last year in numbers.

Ducks

Last years duck population was slightly lower than previous years and like the geese they left the refuge when the hunting season ended on adjacent lands. Their numbers decreased some each week and never increased again after they once got low; and by April most of them were gone.

The duck population has been a little higher this year than last. This increase is attributed to an increase of 700 mallards and 550

black ducks over last year. The ducks have also been a very elusive hunting target; and most hunters on the adjacent areas have complained bitterly about it being the poorest hunting season ever. There is usually an increase in refuge ducks that coincides with the opening of the waterfowl hunting; and there is a corresponding decrease in ducks in the adjacent swamps and marshes but we are not so sure that all of the ducks that leave the adjacent areas come to the refuge. This might be true with mallards, blacks and woodies, but we don't usually have a great increase in pintails and that is one of the main ducks in the hunter's bags in this area.

Most farm operators in this area report large numbers of ducks feeding in their fields after dark every night. The ducks can be seen leaving the refuge every night about a half hour after sunset, heading toward the cut over corn and silage fields on adjacent farms.

Included in this report are charts showing ducks and goose use days and peak populations for several winter periods prior to this year. Some pertinent conclusions can be drawn from these charts.

Doves

There was a relatively high population of 500 doves using the refuge at the beginning of 1967 but by the end of February, before we got a chance to band, most of them were gone. We made a stab at banding but only got thirty at that time. The dove population has remained very much below normal throughout 1967. It remained well below 200 until September when it got to near 300 for a short time. There was a small nesting population and they did produce approximately fifty birds. This is unusually good under the circumstances. There were times during the year when the population was less than fifty. In 1966 doves were down 50% from previous years and they were lower in 1967.

Other Migratory Birds

Other migratory bird numbers are at relatively normal levels. Common snipe are common in the refuge marshes during the winter months. Great blue heron can be seen on the refuge every day of the year. Little blue and little green herons and American egrets are common until cold weather arrives. An occasional snowy and cattle egret is seen in the general area during the warm months. Killdeer are common all year and 50 or more can often be seen in the refuge fields.

A woodcock has been seen on the refuge twice this winter. This is the first official record in several years.

B. Upland Game Birds - Bob-white quail

The normal population of about forty quail are present on the refuge. We have a relatively small amount of quail habitat; so even if we have a good production year the numbers are soon reduced down to the refuge carrying capacity. There are at least three coveys on the refuge.

Turkey

There are at least fifteen turkeys using the refuge but it is doubtful if they spend the entire year on the refuge. However, there are some present at all times and they are very seldom seen crossing the river. Only one young was observed during this year. The turkeys have not been observed quite as much this year as last, but when we did see them we saw more at a time than in previous years. They are seen frequently during the winter season when we are traveling up the creeks in boats every day. There is still a high ratio of three gobblers to each hen; so it is understandable why we don't have a high production. The two foxes we have are very efficient as predators so we will probably never have a real good production.

Ring-necked Pheasants

None have been seen since early spring. All we ever have are some escapees from Curles Neck Farm where they raise them in pens every year. It is doubtful if the foxes will ever let them get established on the refuge.

C. Big Game Animals

White-tailed deer are the only big game animals on Presquile Refuge. At the beginning of 1967 there was estimated to be over 200 on the refuge. A lot of these came in from across the river during the hunting season. Then after the hunting season closed a lot of them left. Then the numbers increased again during fawning season; so the average was about 200 deer throughout the year. Then we had the bow season on them and the numbers were reduced. Then our season ended and the season opened outside the refuge and the numbers increased again. The population now stands at about 100 deer.

They were overabundant this year as in past years; and made the largest contribution of all the resident game to the complete destruction of the buckwheat crop, and the destruction of 25 percent of the corn crop. It is believed that the refuge hunt contributed some to the hunting success off the refuge. Most areas adjacent to the refuge reported more success this year than last. During our hunt it was not unusual to see more than a dozen deer swimming away from the refuge.

Even though only 39 deer were bagged we believe the refuge herd was at least cut down to half. There were a lot of deer shot that eventually died and were never found; and there were a lot of them that left the refuge and provided some hunting pleasure for our good neighbors. Hopefully there are some that just decided they liked it better on the outside. As many as 26 deer were seen in a group within two weeks after the hunt was over; so we don't feel like we over-harvested them, and we will probably make the hunt a little longer next year.

D. Fur Animals, Predators, Rodents and Other Mammals

The small mammals on the refuge include raccoon, opossum, ground hog, striped skunk, cottontail rabbit, red fox, grey squirrel, muskrat and beaver. There are very likely some weasel and mink and an occasional otter but no sightings have ever been verified by refuge personnel.

The raccoon population is at a moderate level now. They were believed to be on the increase last year but there has not been any apparent increase in activity around the duck traps. However, there has been more young than old raccoons seen this year; so there may have been an increase even though the activity around the duck traps don't verify it. The raccoons do some damage to the corn crop, but not near as much as the deer.

There appears to have been a small increase in the muskrat numbers. It is still at a relatively low population level. There are more rats in the swamp than the marshes. They are seen quite a bit more feeding on the bait in the duck traps. However, the marsh rats are not at a real low level.

Grey squirrels have increased some since last year, but they are not at a high population level. They too are seen frequently feeding on the standing corn and in the duck traps, but they don't do any appreciable damage. However, one found his way into the attic of the shop and set up housekeeping, and was becoming a pet until he started gnawing on the wires and causing shorts. We had to evict him and close his entrance hole.

There are some opossums on the refuge but not many and they are seldom seen.

The striped skunks are at a low level and they are seldom seen.

The cotton tail rabbit is at a very low level and is seldom seen. There was a time several years ago when it was not unusual to see dozens but now it is very seldom you see one. This has been the case for several years now; so it is assumed that the one family of foxes

on the refuge do a pretty good job of keeping the rabbit population down.

Ground hogs are also at a low population. We have a control program. All control of the last two years has been accomplished with small bore rifles by refuge personnel.

There is one family of red foxes on the refuge. They have a litter of young every year in a ground hog hole in the north end of field 3. They usually have three or four young. The young apparently leave the refuge as soon as they get large enough to take care of themselves. The adult female possibly spends most of the year off the refuge also. During the fall and winter seasons the adult male is the only one observed and he is a real big one. He makes tracks near as large as a hound makes. He is seen and heard frequently in the headquarters area.

There are beaver that use the refuge but new signs are only occasionally seen. They live in a lake across the river and do not spend a lot of time on the refuge. The lake is just north of Shirley Plantation and empties into the river just across the river from Little Creek.

It is very likely that there are mink and weasel on the refuge and an occasional otter but no sightings have been made by refuge personnel. These animals are all caught by trappers of the area.

Predators in general are at a moderately high population level. No single species is at a high level, but the combination of all species makes a high concentration. This is verified by the low population of rabbits that has remained low for so many years - and the inability of the quail population to build up even though there is more than enough food available. Ring-necked pheasants would probably become established if there were not so many predators.

E. Hawks, Eagles, Owls, Crows, etc.

All hawks native to the area use the refuge. Red-tailed are very common all year; and they get some ducks out of the banding traps. They are the worst pest we have when we are banding. They also rob the dove traps every time they get a chance. This has been a normal year for red-tailed hawks, There has not been a marsh hawk using the refuge this winter. There is usually one.

We have had three eagles occasionally using the refuge this winter. There were six in the two previous years and more in years before. One of the three is a young that has not yet got his white parts. He is here all year. The other two are adults that appear to be a pair. They are always seen near each other and sometimes sitting in the same tree. It is hoped that they will nest in the area. We

are keeping our eyes open. The eagles are not often seen on the refuge but they stay in the general area.

The barred owl is the most common on the refuge. There are two pairs seen every day when we are boating in the refuge creeks at dusk. There is supposed to be a pair of great horned owls on the refuge but they have not been seen in several years. A barn owl was seen on the refuge in September.

There are over one hundred crows that use the refuge regularly. Both fish and American crows make up this population. They pull up some corn when it first starts coming up and steal a lot of fruit and nuts from the trees in headquarters area. If they were to become any more numerous we would have to figure out a control procedure for them to protect the corn crop. There are no known roosts or nesting areas on the refuge.

There are some flocks of blackbirds that use the refuge and feed on the corn crop, but they are not yet numerous enough to require control.

Other Birds

No unusual sightings have been made during the year.

Fish

The refuge does not have any water suitable for fishing in. The river around the refuge is Proclamation Water and it is extremely polluted. There are plenty of catfish and carp at all seasons and striped bass during certain times of the year, but the pollution in the water makes them inedible. They taste like oil. There are a couple of commercial fishermen that catch and ship the catfish north and get a pretty good price for them. We don't keep any records of how many people fish or how much they catch.

H. Reptiles

The refuge reptile population has remained relatively high throughout the year. This is probably one of the controlling factors on the wood duck production. There is a high number of large water snakes and some large cotton-mouth moccasins in the refuge swamp creeks. There is also a very high population of yellow bellied and snapping turtles. These two could cause a large mortality in wood ducks. Our one turtle trapping permittee did not do good. He developed sickness in his family just after he purchased his permit and did not start trapping until too late in the season.

I. Disease

None evident.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

Farming activities and banding operations account for a major portion of our time. Maintenance and rehabilitation work on farming equipment, buildings, deer fence, roads and trails and the ferry system is carried out as time permits.

Major maintenance activities were as follows:

1. We built a large duck trap in Deep Creek last January. We built it for a drive trap but didn't have any luck with it so we put a funnel in and have done fairly good this year.
2. We have spent a lot of time this year in Deep Creek getting the trees and stumps out of the water and cutting overhanging trees. This is an annual job but we have worked more at it this year than normal; so we can use the creek for banding, census and law enforcement without ruining our new boat and motor. The ice storm last February caused a lot of trees to fall in this creek.
3. Cleaned mud out of ferry slips four times.
4. Painted all white wood trim on all buildings and some of the bad looking places on the cement buildings. Also painted the yellow trim on the ferry.
5. Made repairs to deer fence and locked the deer out while the corn came up.
6. Replaced 12"x12"x27' oak beam over the ferry ramp with metal I-Beam.
7. Replaced the ferry cable twice.
8. Installed a mercury vapor light with photo electric cell at ferry landing on mainland.
9. Erected twenty-five wood duck nesting boxes in swamp and marsh.
10. Persuaded the phone company to bury the phone lines on the refuge.
11. Buried all electric lines in headquarters area and got a surplus

25 KVA transformer from the scrap yard at Fort Lee and put it up in place of the $7\frac{1}{2}$ KVA transformer we had been using. We also put in a double throw switch so we can hook the emergency generator in in case of a power failure. This work has improved the efficiency of the electricity in headquarters area; and the bimonthly bills have been a little less since we completed the work.

12. One cluster of piling that the ferry bumps against to keep it from going aground was knocked down by persons unknown so we had to have it replaced at a cost of \$555.00. The incident was reported to the F.B.I. .

13. Replaced the walking surface on the walk down to the boathouse with creosoted lumber. The old lumber on the walk was slick and rotten and was a safety hazard. Also made some modifications to boat house so we could get the new boat in.

14. The refuge entrance road on the mainland has been scraped and graded twice and several loads of gravel have been put on the bad spots.

15. Demolished the old kitchen building that has long been an eyesore and about to fall down. Also tore down the old partial seed house foundation that was constructed several years ago, before it was decided to put a grain storage room in the barn.

16. Put a vent and fan in over the kitchen range in quarters 1.

We have performed numerous maintenance tasks on all buildings and structures and vehicles.

New equipment purchased this year.

1. A International 656 farm tractor.
2. A 15 foot Glassmaster boat with 80 hp Johnson Motor.

Supplies picked up at Fort Lee and Defense General Supply Center property disposal yards were as follows.

1. 25 KVA transformer to replace one that was not large enough for headquarters area.
2. A load of scrap pipe and tent poles to put wood duck boxes on; and to build a waterfowl holding pen with and to put permanent stakes on the nest predator transect.

3. Four barrels of hydraulic oil.

A series of water samples was collected from the refuge well and sent to the state testing laboratory in Richmond and some contamination was reported; so one gallon of a 5 $\frac{1}{2}$ % chlorine solution (Clorox) was poured into the well. Another series of tests were run and no contamination has been found. It has been six months since the well was treated with the chlorine.

B. Plantings

1. Aquatics and Marsh Plants

None.

2. Trees and Shrubs

None.

3. Upland Herbaceous Plants

None.

4. Cultivated Crops

Sixty eight acres of land was plowed to plant corn in, but only fifty three acres was planted in corn. The other fifteen was planted in buckwheat and overseeded with ryegrass. Fields 2a and 2c contain a total of 48 acres, and fields 5w and 5y with a total of twenty acres were all planted in corn except for a fifty foot strip through the middle of fields 2a and 2c. Also some of the south end of field 2a. These parts of fields 2a and 2c were planted in buckwheat overseeded with ryegrass. The rest of the croplands was planted in wheat. All wheat was used as browse and all but ten acres of field 8 was plowed under when the geese left in the spring. The ten acres of field 8 was harvested for seed.

Three different varieties of corn was used but there was not a lot of difference in the production of any of it. Pioneer 345 did a little better than the Ken-bred Golden Acres A 20y or Funk's G-72 in 1966 but we could not get any 345 this year so we used Dekalb XL 346 and it didn't do any better than the other varieties. We are hoping to get some 345 this year and try another variety of Dekalb.

In spite of the long dry spells that came during the growing season just when we needed moisture the most we probably averaged about seventy five bushels per acre. However, the resident wildlife got an estimated twenty five percent of this.

The buckwheat and ryegrass came up real good and made real good growth but the deer got all of the buckwheat before the waterfowl arrived. If the ryegrass had not been planted in the same strips that much land would have been wasted. Next year we should try sowing some ryegrass in the permanent pastures of fescue in an attempt to get more use on those areas. Browse appears to be the most desirable crop we have available.

Wheat planting was started on September 18th and completed in a few days. This is earlier than farmers plant it but this is none too early for the geese to get maximum use from it. It was at an ideal height, four to six inches, when the geese arrived and started using it. They completely denuded the wheat fields during the hunting season and could have used more.

Ten acres of wheat was left standing in the spring when we plowed for corn planting. This wheat was harvested for seed but there was not a real good production and we did not get as much as usual. However, we did get enough seed, about 200 bushels, to plant our own acreage and transfer about fifty bushels to Pungo Refuge. The production was poor because of dry weather and smut, a disease. Then too the geese concentrated on this particular field and caused some reduction in growth.

Fertilizers were applied at the usual rate to the corn and wheat. Six hundred pounds of 5-10-10 was applied to the corn land before planting. Then after the corn was planted and just beginning to come through the ground sixty pounds of nitrogen per acre was applied. To prevent excess growths of Jimson weed Atrazine was applied with the nitrogen at the rate of two pounds of 80% wettable powder per acre. The fertilizer was also applied to the strips that buckwheat was to be planted, but the nitrogen and Atrazine was not.

Five hundred pounds of 10-10-10 was applied to the wheat when it was planted. All of the wheat except the ten acres we harvest is plowed under in the spring; so no more fertilizer is used on any other than that ten acres. It is treated with about sixty pounds of nitrogen per acre in the spring when it first starts to grow. It also received a light application of 5-10-10 at the same time we fertilize the corn land.

All fertilizers are applied by commercial operators.

The permanent pastures of fescue and clover in most cases can no longer be considered as anything other than fescue. They have not received much attention other than mowing for several years. This year some Ladino clover seed were sowed in fields 3 and 7. Then 300 pounds per acre of 3-9-12 fertilizer was applied late in the growing season. The clover seed were sowed in field 3 early in the growing

season and made some good growth in the lower elevations; but it did not do any good higher up where there wasn't enough moisture for it to compete with the fescue. The clover was sowed in field 7 late in the growing season so there is no report on its progress. It is hoped that the forgoing treatments will make the permanent pastures more desirable to the waterfowl.

Soil samples have been taken on all croplands during this year. Two samples were taken from each field that is cultivated every year. The results led to the following recommendations by the County Agent. All fields are low in organic content; so a green manure program should be initiated very soon. We have had a green manure program for some time. It consisted of using the residue of the previous year crop, but this has evidently not been enough. Soybeans have been tried but the rank growth was too hard to get plowed in; so it has been suggested that maybe a Lespedeza could possibly be used. We will decide what to use by the next growing season. Fields 5 and 8 needed at least two tons of limestone per acre to bring the pH up to an acceptable level. We will possibly get one ton on this year and another ton on at a later date. It was decided that most fields could continue to produce fairly good under the present fertilizer programs with just a few small modifications.

New aerial photographs of the refuge were acquired that show the cultivated crops as they are really grown and measurements indicated that our estimates of what we have been growing in each field are not entirely accurate. A new farming plan was written up this year. The new plan will not mean any great changes but it will mean some changes in 1968 that will possibly make farming a little easier and provide a few more acres for food crops and less acres of permanent pastures.

During the coming growing season field 2 will be enlarged seven acres at the expense of the permanent pastures, fields 1 and 3, on both sides. Then field 2 will be divided into four fields of 26 acres each. Field 5 has always been reported to be larger than it actually is. The triangular field at the west end of field 5 that has formerly been called field 5z is actually just four acres. It has always been hard to cultivate in row crops; so we have planted it in permanent ladino clover and changed the number to field 4. A part of the landing strip will be plowed and incorporated into field 5 and the field will be divided into four small fields of seven acres each. This will give us a total of 142 acres of croplands, 4 acres of permanent clover and 93 acres of permanent pasture.

C. Collections and Receipts

Seed purchased during the year included the corn, buckwheat, ryegrass and clover seed we planted.

That was 1250 pounds of buckwheat
150 pounds of ladino clover
10 bushels of corn
500 pounds of ryegrass

We had two bushels of planting corn on hand at the beginning of 1967.

About 200 bushels of wheat was harvested. Fifty bushels were transferred to Pungo Refuge and the rest was planted for browse.

At the beginning of 1967 we had 1,080 bushels of corn on hand. This is one of the corn that we harvested in the fall of 1966. We have used all but about 200 bushels of this corn for banding and will use the rest very soon.

D. Control of Vegetation

Chemical control of Jimson weed in the corn fields was by application of two pounds of 80% Atrazine per acre. This was applied by the commercial applicators along with the nitrogen at about the same time corn begins to germinate. It cost \$250.00 or just under \$5.00 per acre. We received 98% kill on all wide leaf plants in corn fields. This saves us the job of having to cultivate at least once, and keeps the corn open enough so the geese won't mind going into it. It very possibly helps to increase production some.

Small spot infestations of morning glory in the corn fields were treated late in the growing season with a one percent solution of 2-4D. The treatment was 90% effective. The cost was about \$10.00 or \$3.00 per acre.

Spot infestations of Johnson grass were treated in about all fields and in the fence rows. Some treatment was with Dalapon at the rate of 5 pounds of acid equivalent per acre. In the wheat and buckwheat fields treatment consisted of periodically disking and spraying; and in some cases it was pulled up by hand. We think that maybe the dry weather helped us get a better kill in some cases. In the corn fields and permanent pastures and in the fence rows we could not disc so chemical treatment was all we accomplished. The treatments cost us a total of about \$250.00 or \$14.00 per acre. Control ranged from 100% in some cases where we went in and pulled it up to 50% where we could only spray it to 80% where we disced and sprayed it.

E. Planned Burning

None.

F. Fire

None.

IV. RESOURCE MANAGEMENT

A. Grazing

None.

B. Haying

None.

C. Fur Harvest

None.

D. Timber Harvest

None.

E. Commercial Fishing

There are several commercial fisherman using the Proclamation Waters of the James River around the refuge. No permits are issued and no ~~fish~~ checks are made of their catch. However, in a casual stop to talk with them all you see is a lot of real small catfish that will be thrown back. The fisherman use traps and trot lines. They ship their catch to the New York and Chicago markets. Nobody around here would eat them.

F. Other Uses

One special use permit was issued this year for \$20.00 to catch turtles on the refuge. We advertised that we would issue two but only one person showed interest. Soon after he got his permit he got sickness in his family and could not trap any until late in the summer; so he did not catch but 45 pounds. He got twenty two cents per pound for them. We think the large number of turtles in the swamp and marsh are somewhat responsible for the low wood duck production; so we want to get a permit issued earlier this coming year.

V. FIELD INVESTIGATION AND APPLIED RESEARCH

A. Progress Report

The goose net was thrown one time in 1967 and resulted in 158 geese being banded. That was in mid-February. None have been banded since that time. There will probably never be a great many geese banded here until we get permission to band them during the hunting season. We have one good net site and once we use it the geese won't come near again for the rest of the season.

We started banding ducks at the close of the hunting season. By mid February it was all over and we had banded a total of 418 mallards, 136 blacks, 20 pintails, 21 wood ducks, 1 widgeon and 1 ring necked duck.

Duck banding takes a lot of effort and time. In addition to getting ready which takes a lot of labor in getting the creeks cleaned out so the boats will run in them-we spend a lot of time after hours banding. All of our duck traps are up the tidal creeks. This is where the ducks are concentrated. When the hunting season is in progress the creeks are literally covered with ducks; but as soon as the season is over the ducks leave the refuge and we only have a relatively small flock to band from. Then if there is a high population of red-tailed hawks they will raid the traps; and once a hawk has got a duck out of a trap the ducks will not come back to that trap for several days. Another obstacle in duck trapping activities is ice. When the creeks freeze over all of the ducks move out of the swamp and marsh; so even if we could get to the traps we wouldn't catch any ducks. We finally had to stop banding ducks in February this year because the hawks kept all of the few ducks we had chased away from the traps.

Dove banding has been rather discouraging this year. We banded a total of 156. The dove populations have been low all year. Any time during the year that we see the population building up we make an attempt to band. We did this several times during the year, but we don't usually catch many before we start getting nothing but repeats. We have a lot of trouble with the red-tailed hawks robbing dove traps.

Nest Predator Survey

The nest predator survey was continued this year. Prior to putting the eggs out permanent metal stakes were put out to replace the wood ones used last year. The metal stakes were placed about ten feet off the trail where the wood stakes were on the trail last year.

By standing on the trail and placing the eggs near the metal stakes instead of standing at the stake and placing the eggs ten feet away we think we have reduced the possibility of not being able to locate the eggs that have not been disturbed. However, we might have inadvertently given our one very smart family of foxes a pattern to follow for finding every egg. It would not be hard to figure out that there are eggs near each one of those posts. We think that this possibly happened because of the 75 dummy nests we put out we could not find any trace of the eggs in 61. The foxes had a den with young. Foxes have been known to take whole eggs to their den for their young. There were only eight nests undisturbed. The other six nests were probably robbed by skunks in three and raccoons in the other three. There is the possibility that crows got some of

the eggs where there was no trace found.

Percentage wise 89% of all nests were destroyed. It was 66% in 1966. This year we won't put the eggs so close to the stakes and maybe we can at last establish a procedure to be annually used.

VI. PUBLIC RELATIONS

A. Recreational Use

There are no established recreational areas on the refuge. Tours of the croplands area are conducted to acquaint the public with refuge objectives and allow them to see some wildlife in a natural environment. The waters around the refuge are used for boating, water skiing and fishing but no counts are made of the use days. The river is so muddy and polluted there are very few people that would go swimming in it, and nobody except the hungriest can eat a fish out of it.

Refuge tours were provided for five Scout groups, one Sunday School group and one group of Den Mothers from surrounding areas. This was a total of 209 use days by organized groups. Bow hunters for deer hunted a total of 335 hunter days and bagged 39 deer. Bow hunters spent 88 use days on the refuge getting familiar with the area prior to the hunt.

B. Refuge Visitors

There were ⁹⁷⁷ official and unofficial visitors to the refuge in 1967.

Official visitors were as follows:

1-19-67 Mr. Don Daniel 3-2-67	USGMA	Moocking Corn for Duck Bait
3-6-67 Mr. Fielding Tanner	Harrison Lake Hatchery	Visit
6-12-67 Mr. Dick Lingman	Regional Office	Property Aquisi- tion
7-19-67 Mr. Ralph Keel	Pungo Refuge	Get Sur- plus wheat
8-8-67 Mr. Jim Lankford	Regional Office	S&M
8-9-67 Mr. Elliott A. Atstupenas	Harrison Lake Hatchery	Visit

9-13-67 Mr. Walt Coffin	FBI-Petersburg, Va.	Investigation
10-5-67 Dr. Ira N. Gabrielson	Washington, D.C.	Inspection
10-5-67 Dr. Clarence Cottam daughter & grandson	Washington, D.C.	Inspection
10-19-67 Mr. Joe Westbrook	Va. Game Warden	Assist on Deer Hunt
10-19-67 Mr. Joe Bellamy	Va. Game Warden	Assist on Deer Hunt
10-19-67 Mr. Garland Foster & 10-20-67	Va. Game Warden	Assist on Deer Hunt
10-20-67 Mr. Clarence Newman	Va. Game Warden	Assist on Deer Hunt
10-19-67 Mr. Max Ailor	Outdoor Editor Richmond Times Dispatch	News on Deer Hunt
10-19-67 Mr. Jerry Conner	Richmond TV Station WTVR	News on Deer Hunt
10-19-67 Mr. Henry Daniels	Richmond TV Station WTVR	News on Deer Hunt
11-2-67 Mr. Walt Stieglitz	Regional Office	Inspection
11-17-67 Mr. Milford Thurber	Regional Office	Refuge Visit
11-17-67 Mr. John Jones	Central Office	Refuge Visit
12-20-67 Mr. Bob Bain	USGMA	Law En- force- ment Patrol

Unofficial visitors as they appear on the register.

3-4-67 Mr. & Mrs. K.P. Lapeyre	Hopewell, Va.,	Bird watching
3-4-67 Mr. & Mrs. Dick Douglas	Cumberland, Md.	Bird watching
3-16-67 Mr. R.L. Hodges	RPI-Agronomy Research Dept. Blacksburg, Va.	Soil Mapping
3-21-67 Mr. Hank Bilyeu	Hopewell News-paper	Wildlife Interview
5-20-67 40 girls and 10 adults	Brownie Scout Troop 268&Jr. Troop 509 Richmond	Observe Wildlife & Hike
7-18-67 30 members	2 Sunday School Classes Assembly of God Church Hopewell	Picnic
8-15-67 Mr. & Mrs. Conrad Thorpe	Mooreville, N.C.	Observe Wildlife
9-30-67 40 boys & 10 Adults	Cub Scout Pack 880 Chester, Va.	Hike and observe wildlife
10-20-67 Mr. Len Pack	Allied Ambulance Service, Richmond	Get Deer blood samples
10-28-67 18 Scouts	Troop 161 Chester, Va.,	Hike & Wildlife Observation
11-11-67 Mr. & Mrs. Chester Davies	Kittuning, Pa.,	Bird-watching
11-16-67 11 Den Mothers	From surrounding area	Field trip to look for good areas

12-2-67 7 Girl Scouts

Troop 447
Chester, Va.,

Hike and
wildlife
observa-
tion.

C. Refuge Participation

Manager Fields attended Refuge Manager's Conference in Atlanta from January 31st to February 3rd.

Manager Fields attended Middle Manager's Training Course from April 16th to May 19th at Arden Hills, Minnesota.

Manager Fields participated in the Christmas Bird Count.

Manager Fields attended a Conservation and Forestry Education Conference in Charlottesville, Virginia.

A map containing pins to show where our banded birds have been picked up was put on display in a vacant store window in Hopewell during Wildlife Week. Other material was also displayed.

D. Hunting

Prior to this year there has been no public hunting on the refuge. The deer hunt which has been written about in other parts of this report was considered to be a big success. In 335 hunter use days 39 deer were bagged. This is considered a very high ratio for bow hunters. It is believed that all but a very few of the hunters got to shoot at deer even though only 39 took one home. This hunt was described by several as a turkey shoot because most everybody did a lot of shooting. We know that in some cases the person that actually shot the killing arrow did not get the deer; but this is not an uncommon occurrence when you have a lot of people on a small area for a short hunt where there is an over abundance of deer. The hunt did not reduce the deer population to a desirable low level, but it did harvest some that would have never been harvested on and off the refuge; so it is believed that if about the same procedure is used in future years the herd will eventually be reduced to a desired level.

No waterfowl hunting is permitted on the refuge but most of the surrounding areas are hunted. The refuge geese range as far as fifteen miles down the river from the refuge. The ducks probably don't get that far away during the hunting season. No records are kept of the kill on most of the areas. From the conversations with hunters we have surmised that this has been the least successful hunting season in history. Many hunters tell of hunting all day without even seeing a duck, something they have never done before. The field hunters for geese say in most cases the geese don't even come to their

fields where they usually never fail to come. The goose flock on the refuge acted a little differently this year. They usually spent the entire day on the refuge fields where they previously just spent the early morning and late afternoons.

E. Violations

No apprehensions were made on the refuge this year but this does not say that no violations occurred. There were a couple of men suspected of hunting some in the North marsh but we never actually caught them in the act. However, increased patrolling activities in the area after the incident prevented a possible recurrence.

A blind was built in Proclamation waters just off shore from Shirley Plantation but we informed the owner that it was an illegal blind; so he thanked us for not waiting for him to hunt and then apprehending him. He promptly removed the blind.

F. Safety

Safety meetings or informal discussions were held every month and as the situation called for them. One movie on safe driving on ice was shown.

A lot of projects initiated during the year have been the result of unsafe conditions.

The new boat and motor made work more safe.

The replacement of the walking surface on the walkway to the boathouse was done exclusively for safety.

The automatically operated mercury-vapor light at the mainland ferry landing was for public safety.

The burying of all electric wiring in headquarters area made more safe conditions.

Numerous small routine tasks were performed for safety sake. New safety goggles, an extension cord on a reel, life preservers and fire extinguishers were purchased during the year.

Our new Maintenceman, Mr. Luther B. Vick, Jr., is a Captain on the Prince George Volunteer Fire Department. He has made numerous helpful safety suggestions and seen that they were carried out.

There has been no lost time accidents since the refuge was established on March 11, 1953 (15 years).

A. Items of Interest

A 6,000 ton ship, The Lyons Creek, hit our ferry cable and caused about \$300.00 worth of damages to ferry and cable. We wrote them a letter telling them about it and they bought us a new cable. A new cable cost near \$300.00. Maintenceman Vick saw the ship hit the cable.

Somebody else knocked down a cluster of piling at the ferry landing and it cost us \$550.00 to have it replaced. We didn't catch the offender. Nobody saw them. The FBI was notified but they never found out who did it.

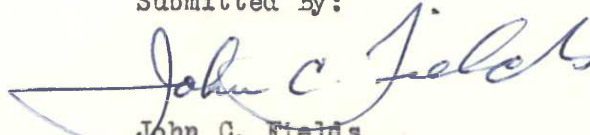
The visit by Drs. Gabrielson and Cottam was of particular interest to us. They were reported to be on a mission for the Secretary, looking for possible additional land for existing refuges. While Dr. Gabrielson was here he suggested that we should look into the possibility of getting the Corps of Engineers to build us a couple of dams on the James River. These dams could be built on the east and west side of the refuge with the spoils obtained if and when they deepen and widen the shipping channel to Richmond. This project would really boost the recreational potential of the general area and give us some good clean water. There are numerous other benefits that would be realized by these dams. We could even put in a road and eliminate the ferry. We could get back into civilization.

B. Photographs

Photographs taken during the year follow.

C. Signature

Submitted By:


John C. Fields
Refuge Manager

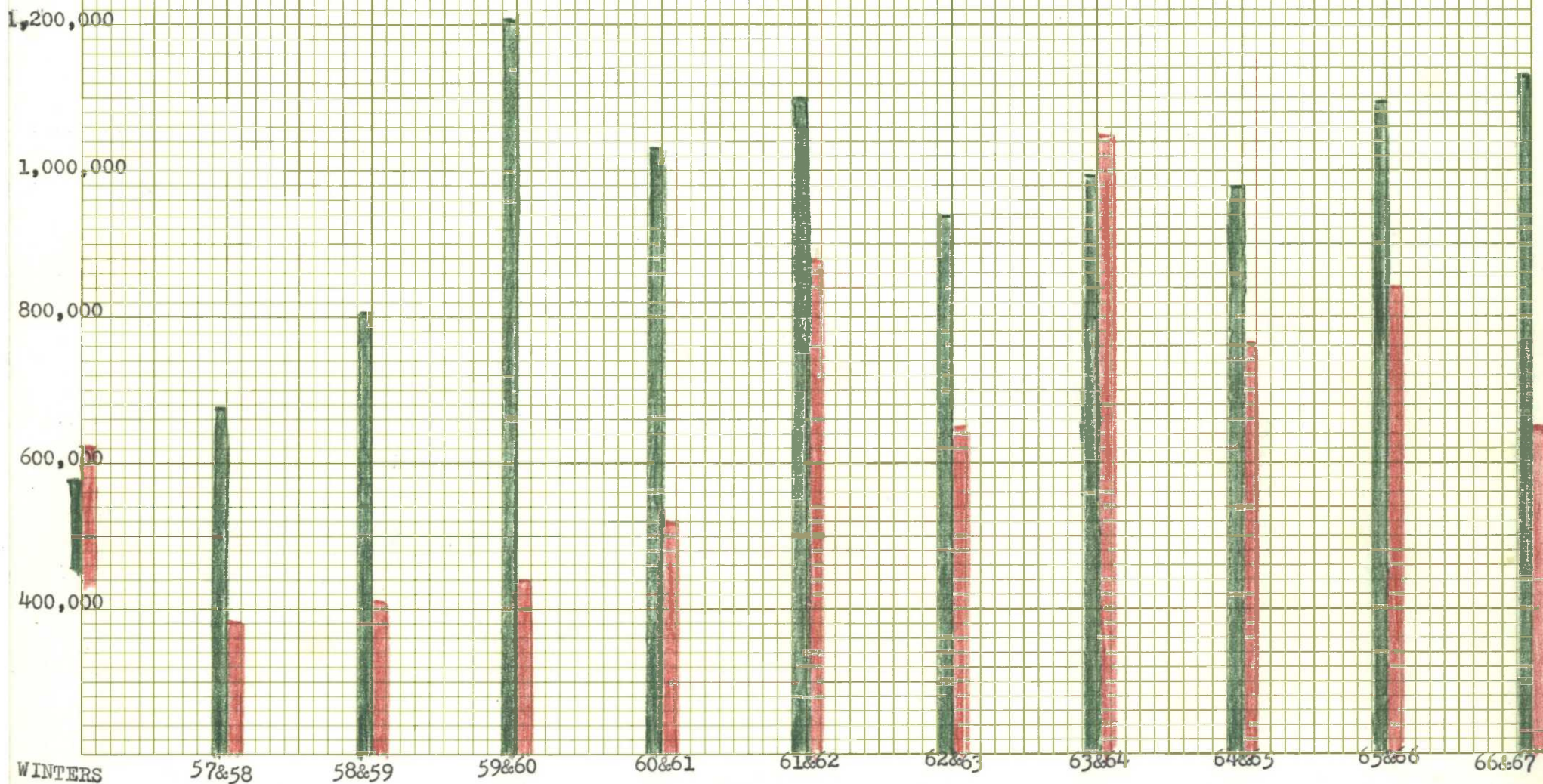
Dated February 2, 1968
Approved by:

Regional Office 
Assistant Regional Supervisor

FEB 9 1968

WATERFOWL USE DAYS FOR TEN WINTER SEASONS PRIOR TO THIS WINTER (1967-3)

GEESE 
DUCKS 



12,000

REFUGE DUCKS AND GEESE PEAK NUMBERS FOR ELEVEN WINTERS

PRIOR TO THIS WINTER (1967&1968 WINTER)

GESE
DUCKS

10,000

8,000

6,000

4,000

2,000

56&57

57&58

58&59

59&60

60&61

61&62

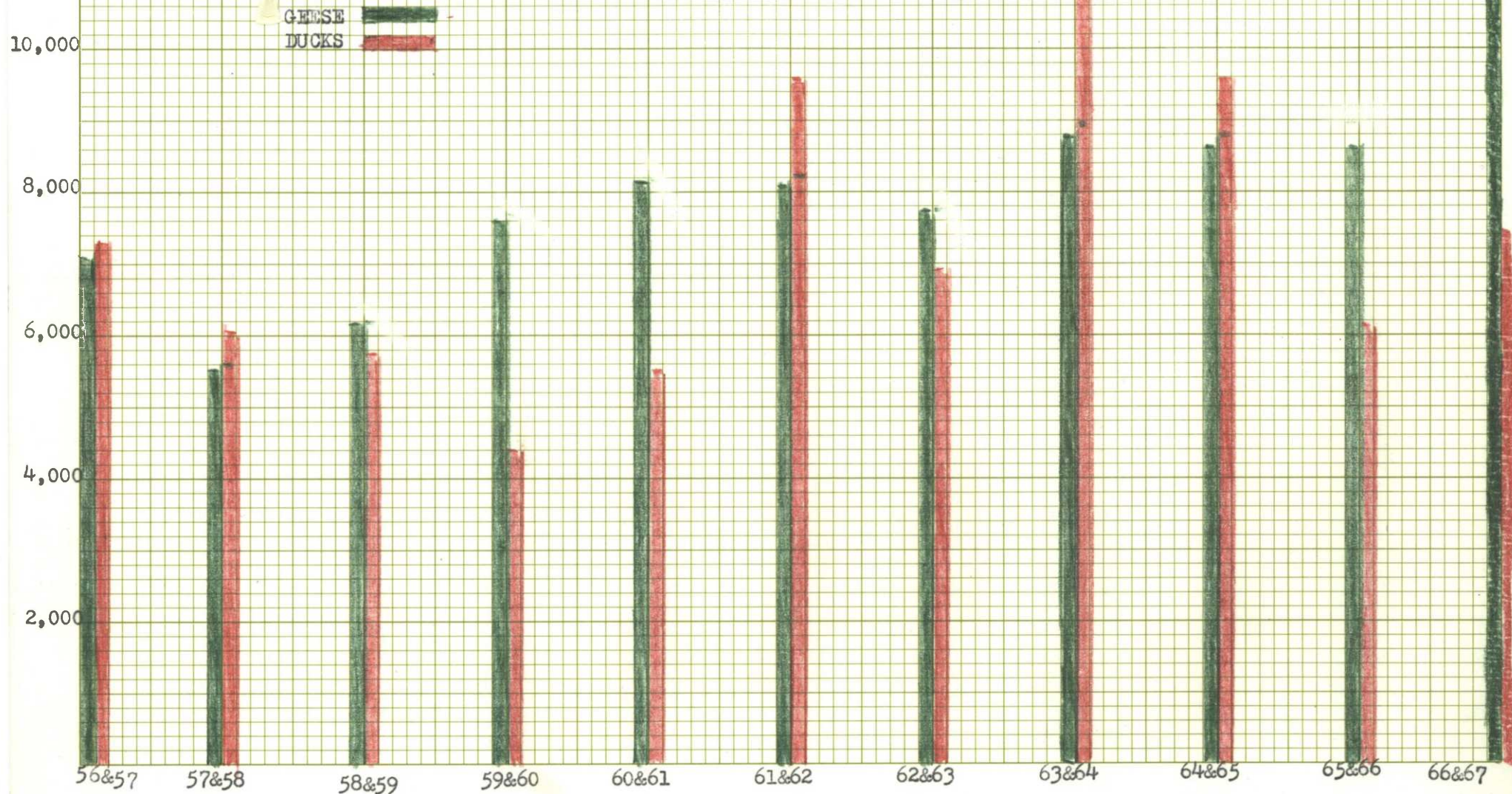
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66&67



W A T E R F O W L

REFUGE Presquile National Wildlife Refuge

MONTHS OF January TO April, 1967

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
	:	:	:	:	:	:	:	:	:	:
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	10,750	10,150	7,800	2,000	1,500	4,200	4,500	6,000	6,3000	5,500
Cackling										
Brant										
White-fronted										
Snow	20	24	21	10	10	15	15	15	12	9
Blue	225	210	190	125	60	80	110	125	125	65
Other										
Ducks:										
Mallard	2,800	2,800	1,900	600	800	650	400	600	500	350
Black	1,800	2,200	1,400	900	600	700	600	400	500	250
Gadwall										
Baldpate	25	25	25		1	20	15	25		15
Pintail	400	450	150	40	40	50	25	120	75	50
Green-winged teal	15	40	20						20	
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood	1,800	1,800	1,100	800	600	500	350	350	300	200
Redhead										
Ring-necked			10				10		20	
Canvasback										
Scaup							20	15	10	
Goldeneye										
Bufflehead	5		5		10	10				
Ruddy	10	15	10	10	10	10	25	10	10	25
Other C. Merganser	75	75	55	50	30	45	120	100	60	60
H. Merganser		15	10		10					
 A. Coot	 10	 10	 15	 10		 10	 10	 10	 10	 5

3-1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Presquile National Wildlife Refuge

MONTHS OF January TO April, 1967

(1) Species	(2) Weeks of reporting period								(3) Estimated: Production		(4) : Estimated	
	11	12	13	14	15	16	17	18	1 day 4/30	waterfowl	Broods	seen : total
Swans:												
Whistling												
Trumpeter												
Geese:												
Canada	3,100	3,200	1,000	150	10	0	0	0	463,120			
Cackling												
Brant												
White-fronted												
Snow	5	5							1,127			
Blue	45	50							9,870			
Other												
Ducks:												
Mallard	100	100	50	20	20	20	10	10	82,110			
Black	75	50	100	60	30	20	10	10	67,935			
Gadwall												
Baldpate	15	10							1,232			
Pintail	25	25							10,150			
Green-winged teal									665			
Blue-winged teal												
Cinnamon teal												
Shoveler												
Wood	200	250	150	150	150	150	120	120	64,470			
Redhead												
Ring-necked	125								1,155			
Canvasback												
Scaup	75								840			
Goldeneye												
Bufflehead									210			
Ruddy	20	50	75	75	40	30	0	0	2,975			
Other C. Merganser	40	40	10		10	8	0	0	5,446			
H. Merganser									245			
Coot:	10	10							770			
					(Over)							

	(5) Total Days Use	:	(6) Peak Number	:	(7) Total Production		SUMMARY
Swans		:		:		Principal feeding areas	<u>Geese in cropland and ducks in</u>
Geese	<u>474.117</u>	:	<u>10,750</u>	:	<u>0</u>		<u>marsh & swamps.</u>
Ducks	<u>237.433</u>	:	<u>2,800</u>	:	<u>0</u>	Principal nesting areas	
Coots	<u>770</u>	:	<u>15</u>	:	<u>0</u>		
Reported by							<u>John C. Fields</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Presqu'île N W R

MONTHS OF May 1 TO August 31, 1967

[illegible]

3-1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE

MONTHS OF May 1 TO August 31, 1967

(1) Species	(2) Weeks of reporting period								(3) Estimated: waterfowl: days use	(4) Production: Broods: seen	(5) Estimated total
	11	12	13	14	15	16	17	18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	0	0	0	0	0	21	0	0	307	0	0
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	4	4	4	4	6	8	10	25	787	0	0
Black	4	4	4	4	8	12	15	50	1,074	0	0
Gadwall											
Baldpate											
Pintail											
Green-winged teal											
Blue-winged teal											
Cinnamon teal											
Shoveler											
Wood	30	70	5	5	30	30	75	75	12,050	1	20
Redhead											
Ring-necked											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Ruddy											
Other											
Coot:											

(Over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	0	0	0	Principal feeding areas <u>Geese in cropland and ducks in</u>
Geese	247	21	0	<u>march & swamps.</u>
Ducks	13,931	150	10	Principal nesting areas <u>Swamp, timber.</u>
Coots	0	0	0	

Reported by John G. Farris

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

W A T E R F O W L

REFUGE Presquile NWR

MONTHS OF September TO December, 1967

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
Swans:	9 days									
Whistling		10-16	17-23	24-30	1-7	8-14	15-21	22-28	29-11-4	5-11
Trumpeter										
Geese:										
Canada	0	0	10	90	300	3000	3500	5000	6500	6000
Cackling										
Brant										
White-fronted										
Snow								10	12	12
Blue								45	70	60
Other										
Ducks:										
Mallard	0	0	0	100	150	400	550	1000	1500	1400
Black	20	25	50	75	75	300	300	750	1200	1200
Gadwall				100						
Baldpate						10				
Pintail					25	40	50	25		20
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood	75	75	100		200	200	800	1250	1600	1750
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy							25	25		
Other										
Coot						10	10	10	10	10

3-1750a

(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Presquille N.W. Refuge

MONTHS OF September TO December, 197

(1) Species	(2) Weeks of reporting period								(3) : (4)		
	12-18	19-25	26-31	2-7	8-13	14-20	21-27	28-30	1 day	Estimated: Production	Estimated: Broods: Estimated
	11	12	13	14	15	16	17	18	days use	seen	total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	6500	7000	7500	8500	5500	7500	8750	8750	538	300	
Cackling											
Brant											
White-fronted											
Snow	25	20	20	20	15	18	17	17	1	207	
Blue	110	125	130	150	125	125	150	150		7000	
Other											
Ducks:											
Mallard	1500	3500	3500	3600	2900	2800	2750	3500	183	050	
Black	1000	2500	2500	2750	2200	1900	2100	1000	17	555	
Gadwall											
Baldpate		50	40	75	25	15	20			700	
Pintail	10	400	500	800	500	250	250	450		1700	
Green-winged teal		25	40	75	40	25	25			1010	
Blue-winged teal											
Cinnamon teal											
Shoveler											
Wood	1750	2000	2000	2000	2000	1800	1800	1500	137	450	
Redhead											
Ring-necked	25		25	50	25					875	
Canvasback											
Scaup	10									70	
Goldeneye											
Bufflehead	10	50	40	40	15	15	20	15		1345	
Ruddy	40	25	35	75	20	40	25	25		2360	
Other			50	75	20	75	75	80		2805	
C. Merganser											
Coot:	10	10	10	10	10	10	10	10		850	
					(Over)						

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese	547,287	8,917	
Ducks	486,505	9,340	10 Wood Ducks
Coots	850	10	

SUMMARY

Principal feeding areas Geese in cultivated fields and marshes.
Ducks in hardwood swamp and adjacent marshes.
Principal nesting areas Wood ducks in hardwood swamp.

Reported by

John C. Fields

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751
Form NR-
(Aug. 1954)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Presquile NWR Months of January to April 19 67

(1) Species Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total Estimated Use
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	
I. Water and Marsh Birds:										
Great Blue Heron	9	1-1-67	22	3-2-67	10	4-30-67	0	0	0	1,750
II. Shorebirds, Gulls, and Terns:										
Laughing Gull	26	4-20-67	30	4-30-67	30	4-30-67	0	0	0	450
Ring Billed Gull	240	1-1-67	240	1-1-67	175	4-30-67	0	0	0	15,000
Herring Gull	75	1-1-67	90	4-10-67	75	4-30-67	0	0	0	7,500
Great Black Backed Gull	12	1-1-67	12	1-1-67	4	4-2-67	0	0	0	575
Bonaparte Gull	8	1-1-67	25	4-12-67	6	4-30-67	0	0	0	450

(over)

Best possible image.

III. Doves and Pigeons:

Mourning dove

White-winged dove

IV. Predaceous Birds:

Golden eagle

Duck hawk

Horned owl

Magpie

Raven

Crow

Bald Eagle

20

1-1-67

500

3-12-67

75

4-3-67

0

0

0

12,500

45

1-1-67

55

3-12-67

22

4-3-67

0

0

0

2,250

6

1-1-67

6

1-1-67

2

4-3-67

0

0

0

475

Reported by John C. Fields

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen:

The first migration record for the species for the reporting period.

(3) Peak Numbers:

Estimated number and inclusive dates when peak population of the species occurred.

(4) Last Seen:

The last refuge record for the species during the season concerned.

(5) Production:

Estimated number of young produced based on observations and actual counts.

(6) Total:

Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1751
Form NR-
(Aug. 1954)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Presqu'ile I. N. B. Months of May 1 to August 31, 1967

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	10	5-1-67	10	5-1-67	10	5-1-67	0	0	0	1,230
Little Blue Heron	2	6-28-67	4	7-15-67	4	7-15-67	0	0	0	25
American Egret	6	6-2-67	14	7-25-67	6	8-31-67	0	0	0	1,100
Snowy Egret	3	7-25-67	3	7-25-67	3	7-25-67	0	0	0	10
Little Green Heron	7	6-30-67	7	6-30-67	4	8-31-67	0	0	0	275
II. <u>Shorebirds, Gulls, and Terns:</u>										
Laughing Gull	30	5-1-67	125	6-30-67	40	8-31-67	0	0	0	7,500
Ring-Billed Gull	200	5-1-67	200	5-1-67	170	8-31-67	0	0	0	17,500
Herring Gull	75	5-1-67	110	5-25-67	75	8-31-67	0	0	0	10,000
Common Tern	3	5-20-67	30	8-31-67	30	8-31-67	0	0	0	750
Killdeer	60	5-5-67	60	5-5-67	12	8-25-67	0	0	0	1,500
Common Snipe	6	5-5-67	6	5-5-67	6	5-5-67	0	0	0	150

(over)

(1)	(2)	(3)	(4)	(5)	(6)					
III. <u>Doves and Pigeons:</u>										
Mourning dove	120	5-1-67	350	8-25-67	150	8-31-67	0	20	35	15,000
White-winged dove										
IV. <u>Predaceous Birds:</u>										
Golden eagle										
Duck hawk										
Horned owl										
Magpie										
Raven										
Crow	25	5-1-67	60	7-20-67	15	8-31-67	0	0	0	2,500
Bald Eagle	2	5-1-67	2	5-1-67	1	8-25-67	0	0	0	110

Reported by John C. Fields

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1751
Form NR-1A
(Aug. 1952)

Presquille N W R

MIGRATORY BIRDS
(Other than Waterfowl)

Months of September

to December 19 67

Refuge

(1) Species Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production		(6) Total
	Number	Date	Number	Inclusive Dates	Number	Date	Colonies	Total # Nests	Total Young Estimated Use
I. Water and Marsh Birds:									
American Egret	21	9/1	21	9/1	11	12/29	0	0	1,500
Little Green Heron	27	9/1	27	9/1	3	11/15	0	0	525
Little Blue Heron	12	9/1	12	9/1	2	11/20	0	0	325
American Bittern	1	9/4	1	9/4	1	9/4	0	0	100
Pied-billed Grebe	2	9/25	8	11/15	1	12/29	0	0	300
Horned Grebe	2	10/8	2	10/8	2	10/8	0	0	20
II. Shorebirds, Gulls, and Terns:									
Herring Gull	25	9/1	210	12/15	50	12/29	0	0	15,000
Bonaparte's Gull	2	12/27	4	12/29	4	12/29	0	0	25
Laughing Gull	23	9/1	23	9/1	1	10/1	0	0	325
Great Black-backed Gull	6	11/27	15	12/27	15	12/29	0	0	400
Common Tern	12	9/1	12	9/1	4	12/21	0	0	450
Common Snipe	6	9/1	22	12/27	12	12/29	0	0	2,000
Woodcock	1	11/5	1	11/5	1	12/29	0	0	90
Killdeer	12	9/1	42	9/19	10	12/29	0	0	2,500

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons: Mourning dove White-winged dove	300 9/1	300 9/1	40 12/31	0 30 50	25,000
IV. Predaceous Birds: Golden eagle Duck hawk Horned owl Magpie Raven Crow Bald Eagle	45 9/1 1 9/1	60 12/27 3 11/20	60 12/29 3 12/29	0 12/29 0 12/29	180 0 150
Reported by John C. Fields					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Presquillo NWR

For 12-month period ending August 31, 1967

Reported by John C. Fields

Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type Acreage	(3) Use-days	(4) Breeding Population	(5) Production
	Crops <u>250</u>	Ducks <u>643,258</u>		
	Upland <u>70</u>	Geese <u>1,131,102</u>		
	Marsh <u>250</u>	Swans <u>0</u>		
	Water <u>1629</u>	Coots <u>1,890</u>		
	Total <u>2199</u>	Total <u>1,776,250</u>		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

Refuge Prairieville RWR

Months of January

to April

, 19 67

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Bob-White Quail	Field borders and swamp edges 300 acres	12	0	0	1-1	0	0	0	25	
Turkey	Entire refuge 1,329 acres of hardwood swamp marsh & uplands	79	0	0	3 Males to 1 Female	0	0	0	17	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | |
|---------------------|--|
| (1) SPECIES: | Use correct common name. |
| (2) DENSITY: | Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| (3) YOUNG PRODUCED: | Estimated number of young produced, based upon observations and actual counts in representative breeding habitat. |
| (4) SEX RATIO: | This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. |
| (5) REMOVALS: | Indicate total number in each category removed during the report period. |
| (6) TOTAL: | Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons. |
| (7) REMARKS: | Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested. |

* Only columns applicable to the period covered should be used.

Refuge Presquille N W R Months of May to August 31, 1962

(1) Species	(2) Density	(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks	
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specificioally requested. List introductions here.
Bob-white quail	Field borders and swamp edge. 300 acres	10	2	30	1-1	0	0	0	30	
Turkey	Entire refuge 1,329 acres of hardwood swamp marsh & uplands	79	0	0	3 males to 1 female	0	0	0	17	

3-1752
(Form NR-
(April 1940)

UPLAND GAME BIRDS

Refuge Presquile NWR

Months of September to December, 1967

(1) Species Common Name	(2) Density Cover types, total acreage of habitat	(3) Young Produced			(4) Sex Ratio Percentage	(5) Removals			(6) Total Estimated number using Refuge	(7) Remarks
		Acre per Bird	Number broods observed	Estimated Total		Hunting	For Re- stocking	For Research		
Turkey	Entire Refuge 1329 acres of hard- wood swamps, marsh and croplands	90	0	3	3 males to 1 female	0	0	0	15	Adjacent Lands provide part of the yearly require- ments of these birds.
Bob-white Quail	Field borders and swamp edges	7	3	9	1 - 1	0	0	0	40	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-1753
Form NR-
(June 1945)

BIG GAM

Refuge Presquile N W R

Calendar Year 1967

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses	(6) Introductions	(7) Estimated Total Refuge Population		(8) Sex Ratio			
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White tailed deer	Entire Refuge	75	39	0	0	0	0	0	61	0	—	200	100	50-50

Remarks: Winter loss includes approximately 20 that died as a result of being shot by refuge bow hunters and never retrieved.

17060

Reported by John C. Fields

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

Remarks: Winter loss includes approximately 20 that died as a result of being shot by refuge bow hunters and never retrieved.

3-1754
Form 1 4
(June 1945)

SMALL MAMMALS

Refuge Presqu'ile MNR

Year ending April 30, 1947

(1) Species	(2) Density	(3) Removals	(4) Disposition of Furs										(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers Share	Refuge share				
Raccoon	1,329	7	0	0	18	0	0	0			0	0	0	190
Muskrat	Marsh, river & creek banks. (600 acres)	3	0	0	0	0	0	0			0	0	0	200
Stripped Skunk	Uplands & edges (300 acres)	10	0	0	0	0	0	0			0	0	0	30
Grey Squirrel	Hardwood swamp and edges (300 acres)	5	0	0	0	0	0	0			0	0	0	160
Groundhog	Upland, edges and riverbanks (348 acres)	6	0	0	0	0	0	0			0	0	0	60
Red Fox	1,200	200	0	0	0	0	0	0			0	0	0	6
Cotton Rabbit	Fields & edges (300 acres)	10	0	0	0	0	0	0			0	0	0	30
Beaver	Tidal Marsh, and swamp (100 acres)	250	0	0	0	0	0	0			0	0	0	4

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by John C. Fields

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

DISEASE

Refuge Pasquillo EWR Year 1967

Botulism

Lead Poisoning or other Disease

Period of outbreak none

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks No disease

Kind of disease None

Species affected _____

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks No disease

PUBLIC RELATIONS

(See Instructions on Reverse Side)

Refuge PresquidCalendar Year 1967

1. Visits

a. Hunting 335 b. Fishing 0 c. Miscellaneous 652 d. TOTAL VISITS 977

1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl			
Upland Game			
Big Game	<u>335</u>	<u>1329</u>	<u>USDA</u>
Other			

Number of permanent blinds 0Man-days of bow hunting included above 335Estimated man-days of hunting on lands adjacent to
refuge 1,000

1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes	<u>0</u>	<u>0</u>
Streams and Shores	<u>0</u>	<u>9</u>

1c. Miscellaneous Visits

Recreation 627 Official 25

Economic Use _____ Industrial _____

2. Refuge Participation (groups)

On Refuge

Off Refuge

TYPE OF ORGANIZATION	NO. OF GROUPS	NUMBER IN GROUPS	NO. OF GROUPS	NUMBER IN GROUPS
Sportsmen Clubs				
Bird and Garden Clubs				
Schools				
Service Clubs	<u>1</u>	<u>11</u>		
Youth Groups <u>Scout</u>	<u>4</u>	<u>125</u>		
Professional-Scientific				
Religious Groups	<u>1</u>	<u>30</u>		
State or Federal Govt.				
Other				

3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases		Radio Presentations	
Newspapers (P.R.'s sent to)		Exhibits	
TV Presentations		Est. Exhibit Viewers	

Bureau of Sport Fisheries and Wildlife
PUBLIC RELATIONS
(See Instructions on Reverse Side)

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and week-end samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item 1a: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.

Item 1c: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these from Item 1.

Item 2: INCLUDE the "On Refuge" groups in Items 1c and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items 1c and 1.

Item 3: Exhibits - INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

3-1757
Form NR-7
(Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

(1)

Refuge Presquile NWR Year 1967

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
None													

- (1) Report agronomic farm crops on Form NR-8
- (2) C = Collections and R = Receipts
- (3) Use "S" to denote surplus

Total acreage planted:

Marsh and aquatic _____
Hedgerows, cover patches _____
Food strips, food patches _____
Forest plantings _____

Remarks: _____

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Presquile

County Chesterfield

State Virginia

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Corn	0	0	0	0	53	3975 Bu.	53		
Buckwheat overseeded with ryegrass	0	0	0	0	15	150/150	15		
Wheat	0	0	10	200/0	68	0/75	78	Wheat	68
								Permanent Pasture	108
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations 0 Haying Operations 0 Grazing Operations 0

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	0	---	---	---
				2. Other	0	---	---	---
				1. Total Refuge Acreage Under Cultivation				257
Hay - Wild				2. Acreage Cultivated as Service Operation				257

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

Refuge PresquilleMonths of January through December, 1967

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Wheat (Seneca)	0	200	200	50	150	0	200	0			
Corn	1,080bu	0	1,080bu	180 bu	0	700 Bu.	880Bu.	200 Bu.		200 Bu.	
Corn Hybrid Seed	0	10Bu.	10Bu.	0	10Bu.	0	10 Bu.	0			
Japanese Buckwheat	0	1250 lbs.	1250 lbs.	0	1250 lbs.	0	1250 lbs.	0			
Ryegrass Seed	0	500 lbs.	500 lbs.	0	500 lbs.	0	500 lbs.	0			
Ladino Clover	0	150 lbs.	150 lbs.	0	150 lbs.	0	150 lbs.	0			

(8) Indicate shipping or collection points Hopewell, Virginia(9) Grain is stored at Presquille Refuge(10) Remarks Corn on hand to be used for banding waterfowl and doves.

*See instructions on back.

(10) Remarks NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

Variety	On Hand Beginning Period	Received During Period	Total	Grain Disposed of			Grain Shipped Out of Refuge	Grain Shipped In		
				Transferred	Disposed	Other		From	Where	Condition
(1)	(2)	(3)	(4)	(5)			(6)	(7)		

3-1761
Form NR-11
(2/46)

TIMBER REMOVAL

Refuge. Presquile N W R Year 1967

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
None								

Total acreage cut over..... Total income.....

No. of units removed B. F. Method of slash disposal.....
Cords.....
Ties.....
.....

ANNUAL REPORT OF PERSTICIDE APPLICATION

Proposal Number

Reporting Year

67-1,2 & 3

1967

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
May 17	Jimson weed and other wide leaf corn field pest plant	Fields 2a, 2c, 5w, and 5y	50	Atrazine 80% wettable powder	100 lbs.	2 lbs. powder per acre or 1.6 a.o./acre	water	Commercial vander
July 20	Morning Glory	Fields 2a, 2c, 5w, and 5y	Spots	2-4-D	1 gal.	1%	water	Tractor mounted PTO operated sprayer
July 18 & 30	Johnson Grass	All Refuge Fields and fence rows	20	Dalapon	75 lbs.	5 lbs. a.o./acre	water	"

10. Summary of results (continue on reverse side, if necessary)

Atrazine was applied along with liquid Nitrogen by commercial vander.

Control of Jimson weed was 90%. Other wide leaf pest plants 75%.

Corn field treatment of vines was 95% effective.

Dalapon treatments of Johnson grass varied from 80% where it was combined with disking to 40% where it was not.



At 10:00 A.M. on the first day of the bow hunt twelve deer had already been checked in.



This 172 pound eight point buck was the largest and prettiest deer bagged during the entire hunt. He was a beauty.



A good days catch in one small trap.



This fellow wanted to tell us that he was an adult male and we still had his mate locked up.



There are about 7,500 geese on this wheat field.



We installed 25 of these boxes on the creek banks in the swamp and marshes. None were used in 1967.



Biological Technician McFarland in a wheat field that received good usage by geese.



In a nearby field that does not get good usage, near an old dike that has been smoothed out this year.



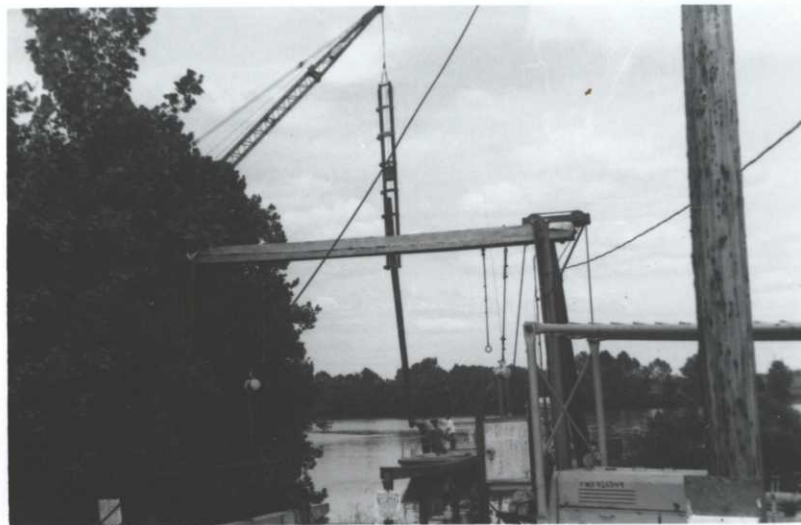
Some typical scenes during the ice storm last February.
Refuge power was off 44 hours.





Maintenanceman Vick showing off new equipment, tractor, boat and motor, purchased this year.





Contractor replacing cluster of piling at ferry landing.



In a newly made platform on the forklift getting ready to replace the old oak beam with an I-Beam.



Cleaning up an eyesore. An old building that was of no use and decayed beyond repair. What did they do before forklifts?



One of the reasons for reducing the deer herd size. This is a typical scene in the corn fields.



Some river traffic. This shows how we could get some damage from passing ships. They come too close to the ferry landings and have been known to hit the ferry.

